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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
WASHINGTON 25, D. C.

In Cooperation with State, Federal and other Agencies

# COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 12, 1947

(Seventh Cotton Insect Survey Report for 1947)

Mild temperatures and rains were favorable for weevil development in the Atlantic States, but dry weather prevailed in all other cotton-growing areas. In general, the temperatures were mild, but high enough over large areas in Texas to check weevil infestations. The weevil situation continues critical in North Carolina, South Carolina, Georgia, Alabama, and Mississippi, and in some areas in Louisiana, Arkansas, Texas, and Oklahoma.

The bollworm and the cotton aphid are abundant in some cotton fields in all of the States where surveys have been made. In some localities they are causing more damage to cotton than any other insects. Cotton growers everywhere should be on the lookout for aphids and bollworms and be prepared to fight them.

The cotton leafworm has not been reported except in Nueces and Calhoun Counties, Texas, where they appeared during June.

In the report for the week ending June 21, the names and addresses were given of the entomologists that issue weekly reports on cotton insect conditions in Arizona, Louisiana, Mississippi, North Carolina, Oklahoma, and Texas. To this list there should now be added: Cedric R. Jordan, Jr., Assistant Extension Entomologist, Clemson, South Carolina.

## INSECTICIDES

On July 12, James T. Conner, Jr., Extension Entomologist, Raleigh, N. C., stated: "Calcium arsenate supply is completely exhausted. Every county in the State would like to have additional boll weevil poison. No shortage of equipment has been reported."

W. A. Ruffin, Extension Entomologist, Auburn, Alabama, wired July 14: "Supply of calcium and nicotine exhausted. We need help if additional supplies of calcium arsenate are available."

K. P. Ewing, Waco, Texas, reports that additional supplies of calcium arsenate are needed at Taft, Sinton, Corpus Christi, Robstown, and other points in southern Texas.

C. F. Stiles, Extension Entomologist, Stillwater, Oklahoma, reported July 12: "Supplies of calcium arsenate are short."

F. F. Bondy and C. F. Rainwater, Florence, South Carolina, report that there has been a heavy demand for the DDT-gamma benzene hexachloride mixture in Chesterfield, Darlington, Lee, Marlboro, and Sumter Counties, and the demand is now increasing in the Piedmont area. Many tons of this mixture and also of 20% "Toxaphene" have been sold in South Carolina this season. Several airplane dusting companies are now operating in South Carolina and are charging $1.00 per acre per application of insecticides.

## BOLL WEEVIL

VIRGINIA: Although no reports have been received about cotton insects in Virginia, reports have been received from Halifax, Hertford, and Northampton Counties, North Carolina, adjacent to the cotton-growing counties of Virginia, where weevils were found in all of the 19 fields examined. In 6 fields the infestations ranged from 10 to 25% punctured squares; in another 6 fields the infestations ranged between 26 and 50%; and in 7 fields more than 50% of the squares were punctured. The average infestation in the 7 fields examined in Northampton County was 45%; in the 7 fields in Halifax County 39%; and in the 5 fields examined in Hertford County 30%. These reports from neighboring counties in North Carolina indicate that the boll weevil situation in Virginia may be more serious than during any recent year. It is hoped that during the next week reports may be received from some of the cotton fields of Virginia.

NORTH CAROLINA: Showers occurred over the Coastal Plains region during the week. Some sections reported the heaviest rains this season, but in other areas more rain was needed. The showers brought cool weather that was favorable for the boll weevil. Early in the week in some of the southern counties hot, dry weather killed boll weevil grubs in the cotton squares. Weevils were found in all of the 112 fields examined in 17 counties with an average of 34% punctured squares, as compared to an average of 29% punctured squares last week. Boll weevil infestations are heavy and are continuing to increase. In 40 of the fields examined between 10 and 25% of the squares were punctured; in 41 fields the infestation ranged from 25 to 50% punctured squares; and in 26 fields in Scotland, Northampton, Sampson, Wayne, Edgecombe, Halifax, Johnston, Greene, Pitt, Wilson, Hertford, Bertie, Hoke, and Robeson Counties more than 50% of the squares were punctured. In Wake, Harnett and Cumberland Counties fields were examined that had more than 25% of the squares punctured.

The boll weevil situation in North Carolina appears to be more serious than a year ago at this time and, in view of the reported shortages of insecticides, the damage caused by the boll weevil is likely to be considerably greater unless checked by hot, dry weather.

SOUTH CAROLINA: Mild temperatures and cloudy, rainy weather prevailed over the State and boll weevils continued to cause serious damage. Weevils were found in all of the 137 fields examined in 18 Piedmont and Coastal Plains Counties with an average of 41% punctured squares as compared to 28% the previous week. In 15 fields less than 10% of the squares were punctured; in 35 fields from 10 to 25% were punctured; in 50 fields from 25% to 50% were punctured; and in 37 fields more than 50% of the squares were punctured. The average infestation in 96 of the fields examined in 16 lower Coastal Plains Counties was 44% punctured squares. Only four counties--Sumter, Lexington, Orangeburg, and Lee--averaged less than 40%, and all of these averaged more than 35%. Three counties--Berkeley, Richland, and Allendale--averaged more than 50%. The boll weevil situation in all of these counties is serious and some farmers have stated they would not make a bale of cotton on four acres.

Examinations made in 18 Darlington County and 23 Florence County fields, where no boll weevil control measures have been applied, averaged 20% punctured squares in Darlington County and 15% in Florence County. These two counties are in the drought area where heavy mortality of weevil larvae in fallen squares has occurred.

C. R. Jordan, Jr., Assistant Extension Entomologist, Clemson, reported July 14: "The damage caused by the boll weevil continues to increase. The weekly reports received from the county agents of 39 counties show an average of 28 percent squares punctured, which is an increase over last week's 25 percent. Counts were made in 188 fields throughout the state and 184 were found to be infested with the weevil. Excellent results have been obtained in most cases where either sweet poison or dust have been used. Many farmers who have used the Benzene hexachloride-DDT dust are very much pleased with the results obtained."

The county agents in South Carolina report fields with more than 50% of the squares punctured in Abbeville, Aiken, Bamberg, Barnwell, Edgefield, Fairfield, Greenwood, Hampton, Kershaw, Lexington, Marlboro, Oconee, and Union Counties. The four fields in which the county agents found no boll weevils are located in Chester, Horry, and Newberry Counties.

GEORGIA: Weather has been favorable for weevil development and in no area has there been sufficient hot, dry weather to cause noticeable reduction in boll weevil infestations. In general, the weevil situation is serious in the northern counties. Of the 75 fields examined in 35 counties throughout the State, less than 10% of the squares were punctured in 15 fields, all of them in southern counties, with one field in Berrien County apparently free of weevils. The highest infestations recorded were also in southern counties. Fields with 64% of the squares punctured were reported from Colquitt and Crisp Counties; with over 50% punctured squares in Ben Hill and Tift Counties; and with over 40% punctured squares in Dougherty, Irwin, and Newton Counties. Fields with over 30% punctured squares were reported from Brooks, Columbia, and McDuffie Counties. Fields with more than 20% punctured squares were reported from Calhoun, Cook, Deactur, Dooly, Early, Grady, Houston, Lee, Miller, Seminole, Sumter, Thomas, Lincoln, Oglethorpe, Walton, and Wilkes Counties. All cotton fields should be kept under close observation. Serious losses may be prevented in many fields that are heavily infested with weevils by the proper application of insecticides.

ALABAMA: W. A. Ruffin, Extension Entomologist, Auburn, wired July 14: "Weevils, aphids, bollworms serious in cotton fields over state. In many fields bollworms have punctured more squares than weevils. Weather has been hot and dry for three weeks, but weevil infestation averages above 25 per cent. Supply of calcium arsenate and nicotine exhausted. We need help if additional supplies of calcium arsenate are available."

MISSISSIPPI: Dr. Clay Lyle, Entomologist of the State Plant Board and Experiment Station, stated on July 14 that "Unless the next 5 or 6 weeks are very hot and dry, heavy losses from cotton insects are certain to occur in Mississippi. The average infestation rose during the week in spite of the great increase in fruiting, indicating a very serious situation in which the only hope, other than chemical control, is for extremely hot, dry weather. The average infestation decreased in the Delta section but increased enough in the remainder of the State to more than equal the average infestation of last week. High infestations are present in nearly all counties, except some of the Delta." These statements were based on the fact that boll weevils were found in 206 of the 314 fields examined in 50 counties with an average infestation of 26% punctured squares, as compared to 25% the previous week, and 20% on this date a year ago. The average for all fields examined was 17%, as compared to 15% punctured squares the previous week, and 9% during the same week last year.

Fields with more than 70% of the squares punctured were reported from Chickasaw, Clarke, Holmes, Newton, Pontotoc, and Union Counties. Reports of fields with more than 40% punctured squares were received from Attala, Benton, Choctaw, Clay, Issaquena, Jasper, Jones, Lamar, Lauderdale, Lee, Panola, Sharkey, Tunica, Warren, Yalobusha, and Yazoo Counties.

In 14 Delta counties weevils were found in only 80 of 186 fields examined. More than 50% of the squares were punctured in only 10 fields, 2 in Holmes County, 5 in Warren County, 1 in Yazoo County, and (surprisingly) 2 in Tunica County. The weevil situation is serious in the southern Delta counties, as weevils were found in all of the 14 fields examined in Issaquena and Warren Counties; in 9 of the 11 fields examined in Yazoo County; and in 12 of the 17 fields examined in Holmes County.

No weevils were found in 106 fields. Weevils were found in only 1 of the 8 fields examined in Coahoma County, in 1 of the 8 fields examined in Quitman County, and in 1 of the 13 fields examined in Tallahatchie County.

B. J. Young of the Delta and Pine Land Company, Scott, reported on July 10 that weevils were found in 251 of the 269 fields examined in the southern part of Bolivar County, but none of the infestations exceeded 50% punctured squares, and in only 9 fields were more than 25% of the squares punctured. Mr. Young stated "Cotton is at least 2 to 3 weeks late and at present is not fruiting sufficiently to warrant poisoning. There is still considerable Lygus and hopper damage. Only an occasional bollworm is found."

LOUISIANA: Dry weather and moderately high temperatures were favorable for cotton growth. The average boll weevil infestation in 132 fields in 13 parishes was 17% as compared to 15% last week and 41% a year ago. In 5% of the fields no punctured squares were found; in 42% of the fields the infestation was less than 10%; in 28% of the fields the infestation ranged from 10 to 25%; in 21% of the fields it was from 25 to 50%; and in 4% of the fields in Bossier, Madison, and Natchitoches Parishes more than 50% of the squares were punctured.

ARKANSAS: Dry weather prevailed over the State. The average infestation in 30 fields in Chicot, Ashley, and Desha counties in the southeastern part of the State was 30% as compared to 13% last week. In 13% of the fields less than 10% of the squares were punctured; in 30% of the fields the infestation was from 10 to 25%; in 30% it was from 25 to 50%; and in 27% of the fields more than 50% of the squares were punctured.

TEXAS: Boll weevil infestations are comparatively low in most areas of the State, with hot, dry weather aiding in decreasing weevil populations. The only counties with an average infestation of more than 25% of the squares punctured were Wharton, Colorado, and Lee. The average boll weevil infestation in 602 fields in 43 counties was 14%. In 56 fields no weevils were found; in 255 fields less than 10% of the squares were punctured; in 164 fields the infestation was from 10 to 25%; in 116 fields it was from 25 to 50%; and in 11 fields in Burleson, Lee, Wharton, Nueces, and San Patricio Counties more than 50% of the squares were punctured.

OKLAHOMA: Dry weather with moderate temperatures was favorable for cotton growth. Cotton is still too small in some fields in Seminole, Bryan, Marshall, Coal, Pontotoc, and Johnston Counties to make square infestation counts. In 23 fields in these counties the weevil populations averaged 125 per acre. The average infestation in 113 fields in 18 counties was 37% punctured squares. Weevils were found in all fields examined, except one field in Bryan County. In 10 fields less than 10% of the squares were punctured; in 32 fields the infestation was from 10 to 25%; in 36 fields it was from 25 to 50%; and in 34 fields including fields in all counties examined except Grady, Love, and Choctaw Counties more than 50% of the squares were punctured.

C. F. Stiles, Extension Entomologist, reported July 12: "The boll weevil infestation continues to increase in most sections of the State. The weevils are causing severe damage in many counties. Among those having the highest infestation were McCurtain, Bryan, Pottawatomie, Stephens, Garvin, and Oklahoma Counties."

## COTTON FLEAHOPPER

OKLAHOMA: The cotton fleahopper infestation is increasing in McCurtain and Choctaw Counties. Infestation was found in 22 of the 23 fields examined in these counties. In 10 fields less than 10 fleahoppers per 100 terminals were found; in 8 fields from 10 to 25; in 2 fields from 25 to 50; and in 2 fields more than 50 fleahoppers per 100 terminals were found.

TEXAS: Cotton fleahoppers are leaving fields of cotton where the plants are beginning to get tough, and infestations have decreased in most areas. However, they are still doing considerable damage in some undusted fields in central and northern counties and have appeared in damaging numbers in a few fields in northwestern areas.

## COTTON APHID

GEORGIA: P. M. Gilmer, Tifton, reported on July 12: "Aphids are becoming a serious problem all over the State and especially in the southern area. High populations are to be found in many fields owing to over heavy dusting schedules. Unnecessary applications (of calcium arsenate) should be avoided because of this difficulty. Undoubtedly the yields in many fields will be reduced seriously from defoliation due to aphids if protective measures are not taken. Both nicotine sulfate and benzene hexachloride, however, are 'tight' throughout the region."

ARIZONA: Aphid populations are increasing rapidly in cotton areas that have been dusted with a 5% DDT-sulfur mixture for cotton fleahopper control at Marana, Pima County.

## BOLLWORM

GEORGIA: P. M. Gilmer, Tifton, reported on July 12 that the bollworm is present in dangerous numbers throughout the State and is especially serious in the southern and northwestern counties. It is two or three weeks earlier than usual and if another brood appears early in August, as may be expected, there is danger that the bollworm may cause serious damage in the State.

TEXAS: Bollworms have been found in a number of fields in central and south central Texas and in scattering numbers as far north as the Red River. Infestations were extremely light in most fields, insufficient to justify control measures. R. R. Rosa reported that bollworms are doing considerable damage in certain cotton fields in the southern part of Refugio County.

## MISCELLANEOUS INSECTS

The cabbage looper, Trichoplusia ni (Hbn.):. Leaf-eating worms tentatively identified as this species were reported by R. R. Rosa as causing some damage in a number of cotton fields in the vicinity of San Patricio County, Taft, Texas.

E. W. Dunnam and S. L. Calhoun, Stoneville, Miss., report that in the examination of 144 fields in 13 counties, bollworms were noted in 19 fields, grasshoppers in 3 fields, aphids in 4 fields, and Neurocolpus sp. in 2 fields, the rapid plant bug in 39 fields, the tarnished plant bug in 18 fields, and the cotton fleahopper in 24 fields.

## INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

ARIZONA: A high percentage of the cotton acreage throughout the Salt River Valley has been or is being dusted or sprayed for hemipterous insect control. In most treated fields examined, heavy reductions in insect populations were noted, both in injurious and beneficial species. In general, the insects injurious to cotton are Lygus spp. Very few stink bugs have been noted on cotton this season.

In Pinal County, cotton fleahopper infestations decreased in all areas, but Lygus spp. remained high in some fields. Nine stink bugs, Euschistus impictiventris, were collected per 100 net strokes in a field near Eloy. Dusting is general throughout the county.

In the Santa Cruz Valley cotton fleahopper infestations continued to increase in the Marana area. A large acreage is being dusted with a 5% DDT-sulfur mixture by airplane for their control.

Lygus spp. continued to increase on cotton in the Solomonsville area of the Safford Valley. Counts ranged from 10 to 66 per 100 net strokes. The counts are low in other parts of the Valley.

NEW MEXICO: Sweepings made in Eddy and Chaves Counties showed comparatively low insect populations consisting chiefly of cotton fleahoppers. The highest infestation was found in the Artesia area in Eddy County. Supplies of 5% and 10% DDT dust have been stocked and plans have been made to dust when injurious hemipterous insect populations warrant control measures.

TEXAS: There was little change in hemipterous insect populations in the El Paso Valley. An average of 9.9 injurious species, mostly Lygus bugs, were collected per 100 sweeps as compared to 8.1 the previous week. The insects collected ranged from 2 to 20 injurious insects per 100 sweeps. Cotton aphid and bollworm infestations are light and spotted. Leaf beetles (Colaspis sp.) are in a few fields in rather large numbers.

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Prepared JULY 17, 1947